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ABSTRACT

Within the evaluation of a curriculum program for student teachers, the curriculum as an influencing factor in the effects of the teaching-learning process was investigated. Qualitative and quantitative research models were used. The Look and Listen I (LLI) program was the subject of the study. It is an individualized program to instruct student teachers in observing children in the classroom. Implementation of LLI included a product evaluation and evaluation of the steering influence of the curriculum structure on teacher and student behavior. The evaluation design examined the discrepancy between the process of implementation and the process as structured; learner performance; user opinion, and the curriculum context within a larger curriculum. Two observers of classrooms in two schools developed case studies for a qualitative analysis. In seven other schools, quantitative information was gathered by questionnaires and pretests-posttests. Both methods examined curriculum intentions in terms of student and teacher behavior. The qualitative case study method paid more attention to the unique process observed and more adequately examined the motives for using the curriculum. The quantitative method was strongly led by the structure of the product and best measured the product itself. (CM)

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CURRICULUM ANALYSIS
AS A CONDITION FOR EVALUATION

by

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Utrecht, 23th March 1983

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Curriculum Analysis as a condition for evaluation

1. Introduction

In the literature concerning evaluation, different views as to the purposes of evaluation and how it is to be carried out are stated. The majority of the authors follows Tyler (1981) and limits the evaluation to product-evaluation (Cronbach, 1974). Other researchers pay attention to process-evaluation (Harlen, 1976). Others again point out the importance of knowledge about the conditions and the context in which the curriculum is implemented (Parlett and Hamilton, 1972; Ormell, 1975; Guba, 1978; Stake 1978).

Qualitative as well as quantitative methods of research are used to assess the process itself and the influencing factors. Patton (1982) speaks about the mixed paradigm. It is necessary to isolate the curriculum as influencing factor. We know that many factors influence the implementation (Berman and McLaughlin 1974), Leithwood (1981) tried to specify the influence, using the models of Hall and Loucks (1978).

This paper deals with the evaluation of a curriculum to teach student-teachers to observe children in the classroom. By curriculum we mean the prescribed course to be followed in that part of the program that is to be evaluated. The problems that are mentioned in the literature do return here.

We will design how to isolate the curriculum as an influencing factor. Only after this has been done it is possible to investigate in how far the effects of the teaching-learning process can be credited to the influence of the curriculum. The qualitative and the quantitative research models are used side by side. An exploration of the context of the process of implementation will be given.

A program to teach student teachers to observe children in classrooms was drawn up in 1981. Its title: Kijken en Luisteren I, in English: Look and Listen I will be referred to as "L.L.I". The package consists of two written documents with explanations and tasks for the students together with audio-visual material and tasks to perform in the classroom. The program is the first in a series of four, developed by the GEON-project, a Dutch project for individualizing the teaching-learning process. After the material was disseminated, evaluation was needed. A project for this purpose was carried out at the University of Utrecht with the help of University students in March 1982 (Doornekamp, e.a. 1983). The curriculum was implemented in nine

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classes of training colleges for student-teachers during the months of September, October and November 1982.

2. Some remarks on evaluation

In evaluating the curriculum we measure the effects. When productevaluation is selected the effects are seen as performances of the learner. Though this is no doubt very important other effects are also to be considered. A curriculum is defined as a written course in use by the teacher and the learner in the classroom. The written text will influence the behaviour of the teacher as well as the behaviour of the learner. It will give directions to the teacher to set the student a certain task, while it will at the same time ask the student to perform that task. This performance when executed is an effect of the curriculum.

However, the performances of the learner are not the only effects of the curriculum. The learning-effects can also be reached through other means. But in our case, the value of the curriculum can only be assessed if the learning-effects are reached by doing what the written course prescribes.

The curriculum as a document can be seen as a pre-design of the teaching-learning process. It conceives this process of course not in reality but as intention. It is a plan. That means that it is written to support the user, the teacher as well as the student. It will direct in some aspects their behaviours. Examples of these aspects are for instance the sequence of the learning activities of the learner and the way in which the teacher gives his explanation about some subject.

If the curriculum is used as formulated and intended in the document, there will be a steering influence on the realisation of the teaching-learning process. This means there will be a structuring analogous to the structure as intended, for those aspects of the teaching-learning process which are taken up in the curriculum. This steering influence becomes a reality only by means of the behaviour of the teacher and learner.

If the analysis given above is true, evaluating a curriculum means not only productevaluation but also the evaluation of the steering influence. One can ask if the structuring of the behaviour of the teacher as well as the learner ultimately leads to the performances of the learner as described and desired. Theoretically there are many possibilities. For instance there may not be any relation at all. The structuring can be ineffective. The conditions for structuring are perhaps unknown, or not known at present. The structuring doesn't fit in into the practice of the school. Empirical information about this

topic is very relevant for the evaluation of the curriculum.

3. Definition of the problem

The question now is how we can gather information about topics like these, or more specific we can ask;

- 3.1. Is the curriculum implemented as intended?
- 3.2. What are the effects of the curriculum on the students?
- 3.3. What is the opinion of the users of the curriculum about this course?
- 3.4. What is the place of this curriculum in the total curriculum of the school?

- 3.1. We know that the steering influence becomes a reality only through the behaviour of the teacher and the learner. So it is evident, that the steering influence as intended in the document will only be present, if the teacher and learner exactly do as prescribed by the curriculum. We have to make certain that the behaviour of the teacher as a teacher doesn't deviate too much from the intended structuring. We can get the answer to this by analysis of the discrepancy between the process of implementation and the process as structured in the curriculum.
- 3.2. Secondly we have to know the performances of the learner. When one knows how much the teacher's behaviour is in agreement with or deviates from the direction as given in the text of the curriculum and one knows the performances of the learner, it is possible to assess the value of the steering influence of the curriculum. Necessary is an exploration of the environment of the process of implementation of the curriculum, to look for factors that might cause or distort the results.
- 3.3. Asking the opinion of the users, as done in the third question, gives new sources of information. However the value of this information is depending on the agreement with or deviation from the intended structuring of the teacher. Is the discrepancy large the value will not be much, with a small discrepancy the value will be more.
- 3.4. Every curriculum is part of a larger one. To assess its value, it is important to know how it fits in within the context of the total curriculum of the schools. That is why the fourth question is asked. It gives supplementary information.

4. The design

How can we gather empirical information on these four questions? The evaluation was divided up in two different ways:

- in two schools the whole process was observed by two observers, who participated in the every day life of the classroom;
- in seven schools the process was not observed directly, but information was gathered by means of questionnaires and a test was taken at the start and the end of the learning-process.

The first method is a qualitative one and an example of a case-study. The second method is a quantitative one. The total procedure is akin to the 'mixed paradigm' about which Patton is speaking (Patton, 1982).

The qualitative as well as the quantitative method was used to answer the four questions mentioned above.

With both methods an analysis of discrepancy took place. Therefore, except for the information about the process of implementation, exact knowledge about the intended steering influence was also needed. It is necessary to operationalise the steering influence. Because it is the behaviour of teacher and learner that is to be analysed, one has to operationalise in terms of that behaviour. It wasn't possible to derive an operationalisation from the curriculum as document. The formulations were too general. Therefore it was necessary to reconstruct the curriculum in terms of teacher's and learner's behaviour. The method is shown under 5.

Tests at the beginning and the end of the learning process were used in both cases. A pre- and a posttest were developed. The items were derived from the objectives of the curriculum. The test of the entering behaviour and the test at the end concern the same topic. This makes it possible to compare results.

The opinion of the users was asked through questionnaires. In the case-studies the opinion was directly asked by means of an interview. The place of the curriculum in the total curriculum was explored by comparing the curriculum with other curricula in the school.

5. The reconstruction of the curriculum

To establish the steering influence of the curriculum a reconstruction is necessary, which has been made in the following way:

- The evaluators have studied the curriculum;
- After discussion and deliberation they have formulated the intentions of the curriculum in terms of teacher's and learner's behaviour;

- The result was a list of so called curriculum-intentions;
- The validity of this list is checked with the developer of the course and with persons who have used it;
- A final list was drawn up.

This list of curriculum-intentions was used as a starting point to draw up the questionnaires, while particular attention was paid to these points at the observations for the case-studies.

6. Results

6.1. Case-study 1

Context

- . training college for student teachers
- . 24 first-year students
- . 10 second-year students
- . teacher has experience with the curriculum

Questions

- . implemented as intended?
- . effects on the students
- . opinion of the users
- . place in the total curriculum

Instruments

- A. observation by direct participation
- B. pre- and post-test
- C. interviews with the teacher
- D. interviews with the first-year students (n=24)
- E. questionnaires to second year students (n=10)
- F. analysis of schooldocuments

Relation between questions and instruments:

figure 1

<u>Question</u>	<u>Instrument</u>
1	A
2	B
3	C,D,E
4	C,E,F

Results case-study 1

QUESTIONS

Discrepancy
(question 1)

Effects
(question 2)

Opinions
(question 3)

Place
(question 4)

RESULTS

Curriculum is not executed in accordance with the intentions:

- practical tasks of the course are replaced by tasks made by the teacher;
- more lessons are given than suggested;
- as for all classroom tasks a central role for the teacher is needed to reach the objectives of the tasks;
- one important classroom task is only partially executed;

- after the course students have knowledge of some factors that influence their observations;
- students are not able to make a systematic observation after the course;

- although the aim of the course is that the students should be able to make a systematic observation, to help children and to detect the causes of some particular behavior, the curriculum is only seen as a start to these goals; these aims should be further developed after the course;
- students think observation is difficult;
- in contrast with the intentions of the course, the course is only seen as an observation course and not as a preparation for the profession as a teacher;
- students and teacher judge fifty percent of the goals of the curriculum as important;
- the teacher thinks that a continuation of the course is valuable but not yet feasible;
- in contrast with the intention of the curriculum and the opinion of the teacher, the students think that the position of the curriculum at the beginning of their training is not the right one;

- in the second and third year of the training of the students, there is no time and place for a training in the observation of children.

6.2. Case-study 2

Context

- . training college for student teachers
- . 28 first-year students
- . 15 second-year and 18 third-year students
- . teacher has experience with the curriculum

Questions

- . implemented as intended?
- . effects on the students
- . opinion of the users
- . place in the total curriculum

Instruments

- A. observation by direct participation
- B. pre- and post-test
- C. reports of the practice tasks
- D. interviews with the teacher
- E. questionnaires and group talks with the first-year students (n=28)
- F. group talks with second-year students (n=15), questionnaires to third-year students (n=18)
- G. interview with a teacher in the psychology of education
- H. analysis of schooldocuments

Relation between questions and instruments

figure 2

<u>Question</u>	<u>Instrument</u>
1	A
2	B,C
3	D,E,F
4	F,G,H

Results case-study 2

QUESTIONS

Discrepancy
(question 1)

Effects
(question 2)

Opinions
(question 3)

RESULTS

Curriculum is executed in accordance with the intentions except:

- one of the practice tasks is not made by the majority of the students;
- there is no feedback by the teacher on the reports of the practice tasks;
- in contrast to the intentions of the course, most students don't make the practice tasks in groups;
- one classroom task is not made, two are only partially made;

- students acknowledge prejudices in others but are not aware of the existence of prejudices by themselves
- after the course more students refer to the importance of information about the family, environment and relations of the child;
- after the course students lay more stress on the relevance of the observation of a child;
- after the course students are able to make a systematic observation of a child;
- after the course most students have knowledge of the most important concepts of the curriculum;

- students and teacher are satisfied about the content of the course, except that:
 - . the teacher thinks the course is too superficial as to some central concepts and thinks some supplementary information is needed;
 - . the teacher is of the opinion that the tasks pay too much attention to 'boring' children, at the expense of quiet children;
- students think, in agreement with the intention of the course, that the beginning of their training is the right time for this curriculum; the teacher pleads for more experience before the start of the course

- the teacher thinks that the suggested amount of time (5 to 7 lessons of two hours) is a minimum for the course;
- as to the goals of the curriculum it seemed that
 - . students think they are able to do a systematic observation of a child; the teacher is satisfied with their reports of the observations;
 - . students and teacher consider the curriculum a good preparation for the profession of teacher but doubt the feasibility in the educational practice;
 - . the teacher thinks that goals that refer to attitudes are long term goals;

Place
(question 4)

- the curriculum takes an isolated position in the total curriculum of the school; only in the third year of the training there is a compulsory observation task; during their whole training, observation tasks are optional.

6.3. Quantitative method

Context

- . nine classes of training colleges for student teachers
- . 192 students
- . 9 teachers

Questions

- . implemented as intended
- . effects on the students
- .. opinion of the users

Instruments

- A. questionnaire to the teachers about the use of the curriculum
- B. pre- and post-test
- C. questionnaire to the teachers about intentions and goals of the curriculum
- D. questionnaire to the students about intentions and goals of the curriculum

Relation between questions and instruments

figure 3

Question	Instrument
1	A
2	B
3	C,D

6.4. Results of the quantitative method

QUESTION

RESULTS

Discrepancy
(question 1)

- in one class the curriculum is used in accordance with the intentions. In eight classes it is not used in this way. Only three points are in accordance with the intentions:
 - . the classroom tasks, except one, are made by the majority;
 - . the curriculum is used at the beginning of the training;
 - . the intended amount of time to pay to the course is not exceeded; however, in nearly all the classes the practice tasks are done after the course has been used in the class;

Effects
(question 2)

- after the course 50% of the students who have used the curriculum conform to the intentions have more self consciousness; as for the other students this applies to only 20%;
- 25% of the students are able to make a systematic observation;
- in contrast to the goals of the curriculum, students don't have knowledge of the behaviour of the child after the course;

Opinions
(question 3)

- teachers think they have used the curriculum fairly in accordance to the intentions;
- in contrast to the intentions of the curriculum, teachers and students don't see the course as an introduction to the practical tasks to perform; they see it only as an observation course;
- As far as the goals it seemed that:
 - . 25% of the students and teachers think the students are able to do a systematic observation; 75% of them think this is an important goal;
 - . 50% of the students and teachers think the students have selfconsciousness; nearly all of them think this is an important goal;

- . after the course, students think they are aware of prejudices; their teachers think this is not the case; students as well as teachers think this is an important goal;
- . students and teachers are of the opinion that they have not reached the goals that relate to more knowledge of a child; they think, however, this is an important goal;
- 50% of the students and 75% of their teachers think that the course is a contribution to the aptitude of systematic observation;
- 75% of the students and teachers think they can come to selfconsciousness by means of this curriculum; as to the awareness of prejudices only 50% of the students and 30% of their teachers think this is the case;
- on average 50% of the students and teachers think the course can be a contribution to insight in the child;
- on average 50% of the students judge the classroom and practice tasks, except two, as valuable; 70% of the teachers agree with this opinion.

Place
(question 4)

no information available.

7. Conclusion

Discrepancy

The curriculum is not used as intended. Only in case 2 there is an exception. The practice tasks for the classroom are not executed; there is only one exception (quantitative method), so we may conclude that there is a great discrepancy between the process of implementation and the process as intended by the curriculum as a document.

Learner performance

The students are able to make a systematic observation, with the exception in case-study 1. This was explicitly stated as an objective of the course. However, it is doubtful, whether this is an effect of the course. It is also possible that it is an effect of some materials of the course together with the influence of the teacher.

There is an increase of selfknowledge at the end of the teaching-learning-process.

Opinions

The opinions of the teachers and students are, compared with the measuring of performance, very optimistic. The curriculum is not seen as an introduction, though it is explicitly intended as such.

The conclusion can be, that the opinions are superficial and not of much value for the evaluation. However, there is some accordance with the performance as measured (for instance in the case of the awareness of prejudices).

There are many critical remarks on the curriculum.

Place

The curriculum takes an isolated position in the total curriculum of the school.

Adding up this conclusions, the endconclusion has to be:

The value of the curriculum is restricted. Measures will have to be taken to enlarge the impact of the curriculum on the behaviour of teacher and learners. This may be possible by adding illustrations to the written text concerning the behaviour as wanted in the classroom. In this way we explain the intended steering influence.

It will also be necessary to increase the motivation. So the teacher will follow the curriculum closely. The discrepancy will then be less.

8. Discussion

In developing the instruments we met with many problems. There was no time for validating the pre- and post-test. This is not unusual in formative evaluation. The group of developers is usually waiting for the results.

But it doesn't improve the process of measuring. It probably causes the few results while comparing the pre- and post-test.

It was not simple to derive the items of the questionnaires from the list of curriculum intentions. There was too little experience with formulating intentions. It was also very difficult to formulate questions about the curriculum intentions in such a way, that the respondent would comprehend the meaning.

It was difficult to establish if the behaviour of the teacher and learner was or was not in accordance with the intention. Every intention has a scope and it is difficult to state the limits and the "point of drastic mutation".

The problem with operationalising the intentions was greater with the quantitative method than it was with the qualitative one.

Finally we would like to reflect on the two methods used in this evaluation: the qualitative (i.e. the case study) and the quantitative method.

Generally speaking, the qualitative method pays more attention to the unique process that is observed and needs to be led by that process. The quantitative method is strongly led by the structure of the product, which has to be used in several 'contexts'. Both research methods study their own part and the subject matter defines which method is best. As for the question of the functioning of the product 'L L I' in a specific context, this can be answered best by using the case-study method. The other part of the evaluation, the evaluation of the product itself is best measured by the quantitative method.

Looking at each method more closely, we come to the following conclusions. The case-study is more adequate when one is interested in the motives for using the curriculum as is done. Moreover, as is mentioned above, one can use this method for a better understanding of the effects of the context on the performance of the teacher c.q. the learner. It is the only way to come to a clear insight into the uniqueness of that context as a whole. Another important aspect of the case-study method is the possibility to study the process in a 'goal-free' way. A disadvantage of this method is the restraint possibility for generalisation to be made on the basis of the obtained results, due to the small sample size. A multisite qualitative policy research can give here an improvement (Herriot

and Firestone, 1983).

The quantitative method lends itself best to that situation where one has to deal with a large sample and requires little introspection. A comprehensive list of data is the result. Furthermore, the possibility of generalisation is improved by gathering information on a larger scale. But it also implies the design of an instrument that will give information relevant to the subject matter i.e. the possibility to draw conclusions back into the curriculum. Designing such an instrument can be very difficult. A disadvantage of this method is the fact that it masks the influence of the specific context of each teaching-learning-process on the resulting performance, by equalizing it. Another restriction characteristic to this method, is the necessity to determine in advance the variable-list leaving no possibility for the unexpected.

Returning to the subject matter of this evaluation-research, we conclude that if one wants to study the functioning of a curriculum in a specific context (what are the effects of the curriculum in this specific situation?) one not only needs to determine the steering influence proceeding from the curriculum, but also to get to know the context, that may cause the effects instead of that steering influence. In collecting these kinds of data the case-study method seems more awkward than a quantitative approach, especially when the former is performed according to the multisite approach as Herriot and Firestone (1983) point out.

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